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| <b>Substitute for form 1449B/PTO</b><br><b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b><br>Date Submitted: 1/7/05<br>(use as many sheets as necessary) |  | <b>Complete if Known</b> |                         |
|   |  | Application Number       | 10/784,586              |
|   |  | Filing Date              | 02/23/2004              |
|   |  | First Named Inventor     | Harry A. ATWATER et al. |
|   |  | Group Art Unit           | 1764                    |
|   |  | Examiner Name            | Unassigned              |
| Sheet 1 of 7  |  | Attorney Docket Number   | 047071-0109             |

**U.S. PATENT DOCUMENTS**

| Examiner Initials* | Cite No. <sup>1</sup> | U.S. Patent Document |                                   | Name of Patentee or Applicant of Cited Document | Date of Publication of Cited Document MM-DD-YYYY | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
|--------------------|-----------------------|----------------------|-----------------------------------|---|--|---|
|                    |                       | Number               | Kind Code <sup>2</sup> (if known) |   |  |   |
| SA                 | A1                    | 5,882,987            |                                   | SRIKRISHNAN                                     | 08/26/1997                                       |   |
|                    | A2                    | 6,150,239            |                                   | GOESSELE et al.                                 | 09/30/1998                                       |   |
|                    | A3                    | 6,346,458            |                                   | BOWER   | 12/30/1999                                       |   |
|                    | A4                    | 5,090,977            |                                   | STRACK et al.                                   | 02/25/1992                                       |   |
|                    | A5                    | 4,499,327            |                                   | KAISER  | 02/12/1985                                       |   |
|                    | A6                    | 6,121,504            |                                   | KUECHLER et al.                                 | 09/19/2000                                       |   |
|                    | A7                    | 4,474,647            |                                   | ASSELINEAU et al.                               | 10/02/1984                                       |   |
|                    | A8                    | 5,720,929            |                                   | MINKKINEN et al.                                | 02/24/1998                                       |   |
|                    | A9                    | 5,914,433            |                                   | MARKER  | 06/22/1999                                       |   |
|                    | A10                   | 5,609,734            |                                   | STREICHER et al.                                | 03/11/1997                                       |   |
|                    | A11                   | 5,336,841            |                                   | ADAMS   | 08/09/1994                                       |   |
|                    | A12                   | 6,465,327            |                                   | ASPAR et al.                                    | 10/15/2002                                       |   |
|                    | A13                   | 5,374,564            |                                   | BRUEL   | 12/20/1994                                       |   |
|                    | A14                   | 5,877,070            |                                   | GOESSELE et al.                                 | 03/02/1999                                       |   |
|                    | A65                   | 6,504,091            |                                   | HISAMATSU et al.                                | 1/2003   |   |
| SA                 | A66                   | 5,231,047            |                                   | OVSHINSKY et al.                                | 7/1993   |   |

**FOREIGN PATENT DOCUMENTS**

| Examiner Initials* | Cite No. <sup>1</sup> | Foreign Patent Document |                     |                                   | Name of Patentee or Applicant of Cited Documents | Date of Publication of Cited Document MM-DD-YYYY | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | T <sup>6</sup> |
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|                    |                       | Office <sup>3</sup>     | Number <sup>4</sup> | Kind Code <sup>5</sup> (if known) |  |  |   |                |
| SA                 | A15                   | EP                      | 0 060 103           |                                   |  | 04/17/1985                                       |   |                |
| SA                 | A16                   | WO                      | 01/03172            |                                   |  | 01/11/2001                                       |   |                |
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|--------------------|-----------------------|---|----------------|
| SA                 | A17                   | CURTIS et al., "Integration of the UOP/HYDRO MTO Process into Ethylene Plants," 10 <sup>th</sup> Ethylene Producers' Conference, 1998, pp. 54-85  |                |
| SA                 | A18                   | BETT et al., III-V Compounds for Solar Cell Applications, Appl. Phys. A, 1999, pp. 119-129, Vol. 69, Springer-Verlag (published online: 24 June 1999)   |                |
| SA                 | A19                   | BRUEL et al., Smart-Cut: A New Silicon On Insulator Material Technology Based on Hydrogen Implantation and Wafer Bonding, March 1997, pp. 1636-1641, Vol. 36, Jpn. J. Appl. Phys  |                |

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| FOREIGN PATENT DOCUMENTS |                       |                         |                     |                                      |  |   |   |                |
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| SA                              | A20                   | CHENG et al., Electron Mobility Enhancement in Strained-Si n-MOSFETs Fabricated on SiGe-on-Insulator (SGOI) Substrates, IEEE Electron Device Letters, July 2001, pp. 321-323, Vol. 22, No. 7   |                |
|                                 | A21                   | DOBACZEWSKI et al., Donor Level of Bond-Center Hydrogen in Germanium, Physical Review B, 2004, pp. 245207-1-6, Vol. 69   |                |
|                                 | A22                   | GEORGAKILAS et al., Wafer-scale Integration of GaAs Optoelectronic Devices with Standard Si Integrated Circuits Using a Low-Temperature Bonding Procedure, Applied Physics Letters, Dec. 2002, pp. 5099-5101, Vol. 81, No. 27, American Institute of Physics [Downloaded 19 Oct. 2004] |                |
|                                 | A23                   | GÖSELE et al., Fundamental Issues in Wafer Bonding, J. Vac. Sci. Technol. A, Jul/Aug 1999, pp. 1145-1152, Vol. 17(4), American Vacuum Society  |                |
|                                 | A24                   | GÖSELE et al., Semiconductor Wafer Bonding. Annu. Rev. Mater. Sci., 1998, pp. 215-241, Vol. 28   |                |
|                                 | A25                   | HUANG et al., SiGe-on-Insulator Prepared by Wafer Bonding and Layer Transfer for High-Performance Field-Effect Transistors, Applied Physics Letters, Feb. 2001, pp. 1267-1269, Vol. 78, No. 9, American Institute of Physics   |                |
|                                 | A26                   | TONG et al., "Layer Splitting Process in Hydrogen-Implanted Si, Ge, SiC, and Diamond Substrates," Appl. Phys. Lett., Vol. 70, No. 11, March 17, 1997, pp. 1390-1392.   |                |
| SA                              | A27                   | HUANG et al., Electron and Hole Mobility Enhancement in Strained SOI by Wafer Bonding, IEEE Transactions on Electron Devices, Sept. 2002, pp. 1566-1571, Vol. 49, No. 9  |                |

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| SA                              | A28                   | LANGDO et al., Strained Si on Insulator Technology: From Materials to Devices, Solid-State Electronics, 2004, pp. 1357-1367, Vol. 48, Elsevier Ltd.  |                |
|                                 | A29                   | LEROY et al., Controlled Surface Nanopatterning with Buried Dislocation Arrays, Surface Science, 2003, pp. 211-219, Vol. 545, Elsevier B.V.  |                |
|                                 | A30                   | MA et al., Solid-State Reaction-Mediated Low-Temperature Bonding of GaAs and InP Wafers to Si Substrates, Appl. Phys. Lett., Feb. 1994, pp. 772-774, Vol. 64, No. 6, American Institute of Physics   |                |
|                                 | A31                   | MALEVILLE et al., Smart-Cut® Technology: From 300 mm Ultrathin SOI Production to Advanced Engineered Substrates, Solid-State Electronics, 2004, pp. 1055-1063, Vol. 48, Elsevier Ltd.  |                |
|                                 | A32                   | MORRAL et al., InGaAs/InP Double Heterostructures on InP/Si Templates Fabricated by Wafer Bonding and Hydrogen-Induced Exfoliation, Applied Physics Letters, Dec. 2003, pp. 5413-5415, Vol. 83, No. 26, American Institute of Physics                          |                |
|                                 | A33                   | TONG et al., Wafer Bonding and Layer Splitting for Microsystems, Adv. Mater., 1999, pp. 1409-1425, Vol. 11, No. 17, Wiley-VCH Verlag GmbH  |                |
|                                 | A34                   | TONG et al., Layer Splitting Process in Hydrogen-Implanted Si, Ge, SiC, and Diamond Substrates, Appl. Phys. Letter, Mar. 1997, pp. 1390-1392, Vol. 70, No. 11, American Institute of Physics   |                |
| SA                              | A35                   | TONG et al., Hydrophobic Silicon Wafer Bonding, Appl. Phys. Lett., Jan. 1994, pp. 625-627, Vol. 64, No. 5, American Institute of Physics   |                |

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|--------------------|-----------------------------|-----------------|------------|
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| SA                              | A36                   | TONG et al., A "Smarter-Cut" Approach to Low Temperature Silicon Layer Transfer, Appl. Phys. Lett., Jan. 1998, pp. 49-51, Vol. 72, No. 1, American Institute of Physics  |  |                |
|                                 | A37                   | ZAHLE et al., Ge Layer Transfer to Si for Photovoltaic Applications, Thin Solid Films, 2002, pp. 558-562, Vol. 403-404, Elsevier Science B.V.  |  |                |
|                                 | A38                   | ZAHLE et al., Wafer Bonding and Layer Transfer Processes for 4-Junction High Efficiency Solar Cells, 29 <sup>th</sup> IEEE Photovoltaic Specialists Conference, New Orleans, USA, (05/2002)  |  |                |
|                                 | A39                   | AUBERTON-HERVÉ et al., Smart-Cut®: The Basic Fabrication Process for UNIBOND® SOI Wafers, IEICE Trans. Electron, Mar. 1997, pp. 358-363, Vol. E80-C, No. 3, The Institute of Electronics, Information and Communication Engineers                              |  |                |
|                                 | A40                   | TRACY et al., Germanium-on-Insulator Substrates by Wafer Bonding, Journal of Electronic Materials, 2004, pp- 886-892, Vol. 33, No. 8   |  |                |
|                                 | A41                   | ZAHLE et al., J. Electron Mater., 33(8), (2004), pp. 22-23, (Abstracts K2 and K3)  |  |                |
|                                 | A42                   | AKATSU et al., Wafer Bonding of Different III-V Compound Semiconductors by Atomic Hydrogen Surface Cleaning, Journal of Applied Physics, Oct. 2001, pp. 3856-3862, Vol. 90, No. 8, American Institute of Physics   |  |                |
| SA                              | A43                   | BRUEL M., Silicon on Insulator Material Technology, Electronics Letters, July 1995, pp. 1201-1202, Vol. 31, No. 14   |  |                |

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| Examiner<br>Initials*           | Cite<br>No. <sup>1</sup> | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published. | T <sup>6</sup> |
| SA                              | A44                      | BRUEL M., Application of Hydrogen Ion Beams to Silicon on Insulator Material Technology, Nuclear Instruments and Methods in Physics Research B, 1996, pp. 313-319, Vol. 108, Elsevier Science B.V.   |                |
|                                 | A45                      | KIM et al., Heterogeneous Silicon Integration by Ultra-High Vacuum Wafer Bonding, Journal of Electronic Materials, 2003, pp. 849-854, Vol. 32, No. 8   |                |
|                                 | A46                      | LAGNADO et al., Integration of Si and SiGe with Al <sub>2</sub> O <sub>3</sub> (sapphire), Microelectronic Engineering, 2001, pp. 455-459, Vol. 59, Elsevier Science B.V.  |                |
|                                 | A47                      | TARASCHI et al., Strained Si, SiGe, and Ge On-Insulator: Review of Wafer Bonding Fabrication Techniques, Solid-State Electronics, 2004, pp. 1297-1305, Vol. 48, Elsevier Ltd.  |                |
|                                 | A48                      | WIEGAND et al., Wafer Bonding of Silicon Wafers Covered with Various Surface Layers, Sensors and Actuators, 2000, pp. 91-95, Vol. 86, Elsevier Science B.V.  |                |
|                                 | A49                      | YAMAGUCHI M., Multi-Junction Solar Cells and Novel Structures for Solar Cell Applications, Physica E, 2002, pp. 84-90, Vol. 14, Elsevier Science B.V.  |                |
|                                 | A50                      | ZAHLER et al., Wafer Bonded Ge/Si Heterostructures for Photovoltaic Applications, Presentation, MRS 2002 Fall Meeting, 16 pages, (11/2002)   |                |
| SA                              | A51                      | ZAHLER et al., Wafer Bonded Ge/Si Heterostructures for Photovoltaic Applications, (Presentation), Electronic Materials Conference 2002, 16 pages   |                |

|                       |                             |                    |            |
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| Examiner<br>Signature | /Shamim Ahmed/ (08/20/2006) | Date<br>Considered | 08/20/2006 |
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| <b>INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT</b><br><br>Date Submitted: 1/7/05<br><br><i>(use as many sheets as necessary)</i> |   |    |   | Application Number       | 10/784,586              |
|  |   |    |   | Filing Date              | 02/23/2004              |
|  |   |    |   | First Named Inventor     | Harry A. ATWATER et al. |
|  |   |    |   | Group Art Unit           | 1764                    |
|  |   |    |   | Examiner Name            | Unassigned              |
| Sheet  | 6 | of | 7 | Attorney Docket Number   | 047071-0109             |

| U.S. PATENT DOCUMENTS |                       |                      |                                   |   |  |   |
|-----------------------|-----------------------|----------------------|-----------------------------------|---|--|---|
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| FOREIGN PATENT DOCUMENTS |                       |                         |                     |                                   |  |  |   |                |
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| SA                              | A52                   | ZAHLER et al., Wafer Bonded Ge/Si Heterostructures for Photovoltaic Applications, (Abstract and Presentation), MRS 2002 Spring Meeting (04/2002)   |                |
|                                 | A53                   | ZAHLER J.M., Materials Integration by Wafer Bonding and Layer Transfer, (Presentation), 13 pages, MRS 2004 Spring Meeting (04/2004)  |                |
|                                 | A54                   | ZAHLER et al., The Role of H in the H-Induced Exfoliation of GE Films, (Abstract and Presentation), MRS 2004 Spring Meeting, 16 pages (04/2004)  |                |
|                                 | A55                   | ZAHLER et al., Wafer Bonded Exptitaxial Templates for GaAs/Si Heterostructures, (Abstract and Presentation), MRS 2003 Spring Meeting, 16 pages, (04/2003)  |                |
|                                 | A56                   | ZAHLER et al., Wafer Bonded Exptitaxial Templates for GaAs/Si and InP/Si Heterostructures, (Presentation), MRS 2003 Fall Meeting, 15 pages, (11/2003)  |                |
|                                 | A57                   | ZAHLER et al., Wafer Bonding Processes for Ultrahigh Efficiency Photovoltaic Applications, (Abstract and Presentation), MRS 2001 Fall Meeting, (11/2001)   |                |
|                                 | A58                   | ZAHLER et al., GE Layer Transfer to Si for Photovoltaic Applications, (Presentation), 14 pages, MRS 2001 Spring Conference, (04/2001)  |                |
| SA                              | A59                   | ZAHLER et al., Wafer Bonding and Layer Transfer Processes for A 4-Junction Solar Cell, (Presentation) 29 <sup>th</sup> IEEE Photovoltaic Specialists Conference, New Orleans, USA, (05/2002)   |                |

|                    |                             |                 |            |
|--------------------|-----------------------------|-----------------|------------|
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|   |   |    |   | Filing Date              | 02/23/2004              |
|   |   |    |   | First Named Inventor     | Harry A. ATWATER et al. |
|   |   |    |   | Group Art Unit           | 1764                    |
|   |   |    |   | Examiner Name            | Unassigned              |
| Sheet   | 7 | of | 7 | Attorney Docket Number   | 047071-0109             |

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|-----------------------|--------------------------|----------------------|---|--|--|--|
| Examiner<br>Initials* | Cite<br>No. <sup>1</sup> | U.S. Patent Document |   | Name of Patentee or Applicant of<br>Cited Document | Date of Publication of<br>Cited Document<br>MM-DD-YYYY | Pages, Columns, Lines,<br>Where Relevant<br>Passages or Relevant<br>Figures Appear |
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| SA                              | A60                      | ZAHLER et al., Ge/Si Wafer Bonded Epitaxial Templates for GaAs/Si Heterostructures, (Abstract), MRS 2002 Fall Meeting, (11/2002)   |                |
| SA                              | A61                      | MORRAL et al., Bonding and Layer Transfer Process of InP on Silicon for the Elaboration of the Bottom Double Heterostructure of 4-Junction High Efficiency Solar Cells, (Abstract), MRS 2002 Fall Meeting, (11/2002)   |                |
| SA                              | A62                      | MORRAL et al., Assessment of Optical and Structural Properties of III-V Semiconductors Grown on InP/Si and Ge/Si Wafer Bonded Epitaxial Templates with Application to a Four-Junction Solar Cell, (Abstract), MRS 2003 Spring Meeting, (04/2003)               |                |
| SA                              | A63                      | MORRAL et al., Electrical and Structural Characterization of the Interface of Wafer Bonded InP/Si, MRS 2003 Spring Meeting, (04/2003)  |                |
| SA                              | A64                      | MORRAL et al., The Role of Hydrogen in H-Induced Exfoliation and Layer Transfer on InP, (Abstract), MRS 2004 Spring Meeting, (04/2004)   |                |
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 Filing Date 02/23/2004  
 First Named Inventor Harry A. ATWATER et al.  
 Group Art Unit 1764  
 Examiner Name Unassigned  
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Sheet 1 of 1

**U.S. PATENT DOCUMENTS**

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|--------------------|-----------------------|----------------------|-----------------------------------|---|--|---|
|                    |                       | Number               | Kind Code <sup>2</sup> (if known) |   |  |   |
| SA                 | B1                    | 5,013,681            |                                   | GODBEY et al.                                   | 05-07-1991                                       |   |
|                    | B2                    | 5,217,564            |                                   | BOZLER et al.                                   | 06-08-1993                                       |   |
|                    | B3                    | 5,391,257            |                                   | SULLIVAN et al.                                 | 02-21-1995                                       |   |
|                    | B4                    | 5,637,187            |                                   | TAKASU et al.                                   | 08-10-1997                                       |   |
|                    | B5                    | 5,641,381            |                                   | BAILEY et al.                                   | 06-24-1997                                       |   |
|                    | B6                    | 5,710,057            |                                   | KENNEY  | 01-20-1998                                       |   |
|                    | B7                    | 6,020,252            |                                   | ASPAR et al.                                    | 02-01-2000                                       |   |
|                    | B8                    | 6,103,597            |                                   | ASPAR et al.                                    | 08-15-2000                                       |   |
|                    | B9                    | 6,211,738            |                                   | SAKAGUCHI et al.                                | 04-24-2001                                       |   |
|                    | B10                   | 6,242,324            |                                   | KUB et al.                                      | 06-05-2001                                       |   |
|                    | B11                   | 6,323,108            |                                   | KUB et al.                                      | 11-27-2001                                       |   |
|                    | B12                   | 6,328,796            |                                   | KUB et al.                                      | 12-11-2001                                       |   |
|                    | B13                   | 6,429,104            |                                   | AUBERTON-HERVE                                  | 08-06-2002                                       |   |
|                    | B14                   | 6,497,763            |                                   | KUB et al.                                      | 12-24-2002                                       |   |
|                    | B15                   | 2003/0064535         |                                   | KUB et al.                                      | 04-03-2003                                       |   |
|                    | B16                   | 6,794,276            |                                   | LETERTRE et al.                                 | 09-21-2004                                       |   |
|                    | B17                   | 6,815,309            |                                   | LETERTRE et al.                                 | 11-09-2004                                       |   |
|                    | B18                   | 2004/0235268         |                                   | LETERTRE et al.                                 | 11-25-2004                                       |   |
|                    | B19                   | 2005/0032330         |                                   | GHYSELEN et al.                                 | 02-10-2005                                       |   |
|                    | B20                   | 6,867,067            |                                   | GHYSELEN et al.                                 | 03-15-2005                                       |   |
| SA                 | B21                   | 6,908,828            |                                   | LETERTRE et al.                                 | 06-21-2005                                       |   |

**U.S. PATENT APPLICATIONS**

| Examiner Initials* | Cite No. <sup>1</sup> | U.S. Application Document |  | Name of Patentee or Applicant of Cited Document | Filing Date if Appropriate MM-DD-YYYY | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
|--------------------|-----------------------|---------------------------|--|---|---------------------------------------|---|
|                    |                       | Number                    |  |   |                                       |   |
| SA                 | B22                   | 10/761,918                |  | ATWATER et al.                                  | 01/20/2004                            |   |
| SA                 | B23                   | 11/004,808                |  | ATWATER et al.                                  | 12/07/2004                            |   |
| SA                 | B24                   | 11/004,948                |  | ATWATER et al.                                  | 12/07/2004                            |   |

**FOREIGN PATENT DOCUMENTS**

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|                    | B25                   | JP                      | 03-270220           |                                   | FUJITSU LTD.                                     | 02/12/1991                                       |   | Abst.          |

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|--------------------|-----------------------|--|----------------|
| SA                 | B26                   | WELDON et al., "Mechanism of Silicon Exfoliation Induced by Hydrogen/Helium Co-Implantation," Applied Physics Letters, Vol. 73, No. 25, December 21, 1998, pgs. 3721-3723.   |                |

Examiner Signature

/Shamim Ahmed/ (08/20/2006)

Date Considered

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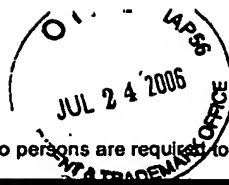
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| Filing Date            | 2/23/2004            |
| First Named Inventor   | Harry A. Jr. ATWATER |
| Group Art Unit         | 1765                 |
| Examiner Name          | S. Ahmed             |
| Attorney Docket Number | 047071-0109          |

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|                    |                       | Number               | Kind Code <sup>2</sup> (if known) |   |  |   |
| SA                 | C1                    | 2005/0085049         | A1                                | ATWATER, JR. et al.                             | 04/21/2005                                       |   |
|                    | C2                    | 2005/0142879         | A1                                | ATWATER, JR. et al.                             | 06/30/2005                                       |   |
|                    | C3                    | 5,315,793            |                                   | PETERSON et al.                                 | 05/31/1994                                       |   |
|                    | C4                    | 5,395,788            |                                   | ABE et al.                                      | 03/07/1995                                       |   |
|                    | C5                    | 5,882,987            |                                   | SRIKRISHNAN et al.                              | 03/16/1999                                       |   |
|                    | C6                    | 5,910,699            |                                   | NAMBA et al.                                    | 06/08/1999                                       |   |
|                    | C7                    | 6,251,754            | B1                                | OHSHIMA et al.                                  | 06/26/2001                                       |   |
|                    | C8                    | 6,323,108            | B1                                | KUB et al.                                      | 11/27/2001                                       |   |
|                    | C9                    | 6,489,241            |                                   | THILDERKVIST et al.                             | 12/03/2002                                       |   |
| SA                 | C10                   | 7,019,339            | B2                                | ATWATER, JR. et al.                             | 03/28/2006                                       |   |

**UNPUBLISHED U.S. PATENT APPLICATION DOCUMENTS**

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| SA                 | C11                   | 11/430,160                       |                                   | ATWATER, JR. et al.                             | 5/9/2006                                 |   |

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